



10-19-08 10/724028 cgc

Docket No.: 08211/0200253-US0  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Letters Patent of:  
Timothy Lance Blankenship et al.

Patent No.: 7,053,658

Issued: May 30, 2006

For: APPARATUS FOR CIRCUIT WITH KEEPER

**Certificate**

**OCT 23 2006**

**of Correction**

**REQUEST FOR CERTIFICATE OF CORRECTION  
PURSUANT TO 37 CFR 1.322**

Attention: Certificate of Correction Branch  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted several Patent Office errors which should be corrected.

In the Specification:

Column 3, Line 66, Delete "MIO" and insert -- M10 --.

Column 4, Line 2, Delete "MIO" and insert -- M10 --.

The errors were not in the application as filed by applicant; accordingly no fee is required. Enclosed please find marked up copies of the specification.

**OCT 24 2006**

Transmitted herewith is a proposed Certificate of Correction effecting such amendment. Patentee respectfully solicits the granting of the requested Certificate of Correction.

Dated: October 16, 2006

Respectfully submitted,

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**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 7,053,658  
APPLICATION NO. : 10/724,028  
ISSUE DATE : May 30, 2006  
INVENTOR(S) : Timothy Lance Blankenship et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification:

Column 3, Line 66, Delete "MIO" and insert -- M10 --.

Column 4, Line 2, Delete "MIO" and insert -- M10 --.



Figure 4 illustrates a schematic diagram of a circuit (400) that is another exemplary implementation of Figure 1. Circuit 400 is substantially similar to circuit 300 in some ways, albeit different in other ways. In circuit 400, keeper switch circuit 102 is implemented by transistor M9. Transistor M9 has a gate that is coupled to node N1, a drain that is coupled to node N13, and a source that is coupled to node N3.

Transistor M9 is configured to ensure that signal *lr* is actively driven independent of the voltage associated with signals *in\_hr* and *in\_lr*, including at the initial power-on state. Transistors M3 and M9 are n-type transistors.

Figure 5 illustrates a schematic diagram of a level-shifter circuit (500). Circuit 500 includes transistors M2-M5 and M11-M16, keeper circuit 102 (transistor M8) and another keeper circuit (transistor M10). Transistor M4 has a gate that is coupled to node N11, a drain that is coupled to a first complement output node N21, and a source that is coupled to a second complement output node N22. Transistor M10 has a gate that is coupled to node N21, a source that is coupled to node N22, and a drain that is coupled to node N11.

Transistor M8 is configured to operate in a substantially similar manner as described with regard to Figure 3, albeit different in some ways. Transistor M4 is arranged to operate as a cascode transistor in cooperation with transistor M12. Transistor M5 is configured to operate as a cascode transistor in cooperation with transistor M14. Circuit 500 is configured to provide signals *hr*, *fr*, *lr*, *hrb*, *frb*, and *lrb* in response to a data input signal (*din*). Signal *hrb* is a complement of signal *hr*, signal *frb* is a complement of signal *fr*, and signal *lrb* is a complement of signal *lr*. As an example, transistors M2, M4, M8, and M10 are each p-type transistors. Transistor M8 is configured to ensure that signal *hr* is actively driven regardless of the voltage associated with signal *din*. Transistor M10 is configured to ensure that signal *hrb* is actively driven regardless of the voltage associated with signal *din*.

Figure 6 illustrates a schematic diagram of a circuit (600) that is substantially similar to circuit 500, albeit different in some ways. In this embodiment, the keeper circuit 102 is implemented by transistor M9, and the other keeper circuit is implemented by transistor M17. In this example, transistors M3, M5, M9, and M17 are n-type

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Application No. (if known): 10/724,028

Attorney Docket No.: 08211/0200253-US0

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